

Figure 1: Evacuated Gas Sampling Pneumatic System (version 1) which resulted in fast signal rise kinetics and a relatively slow recovery time

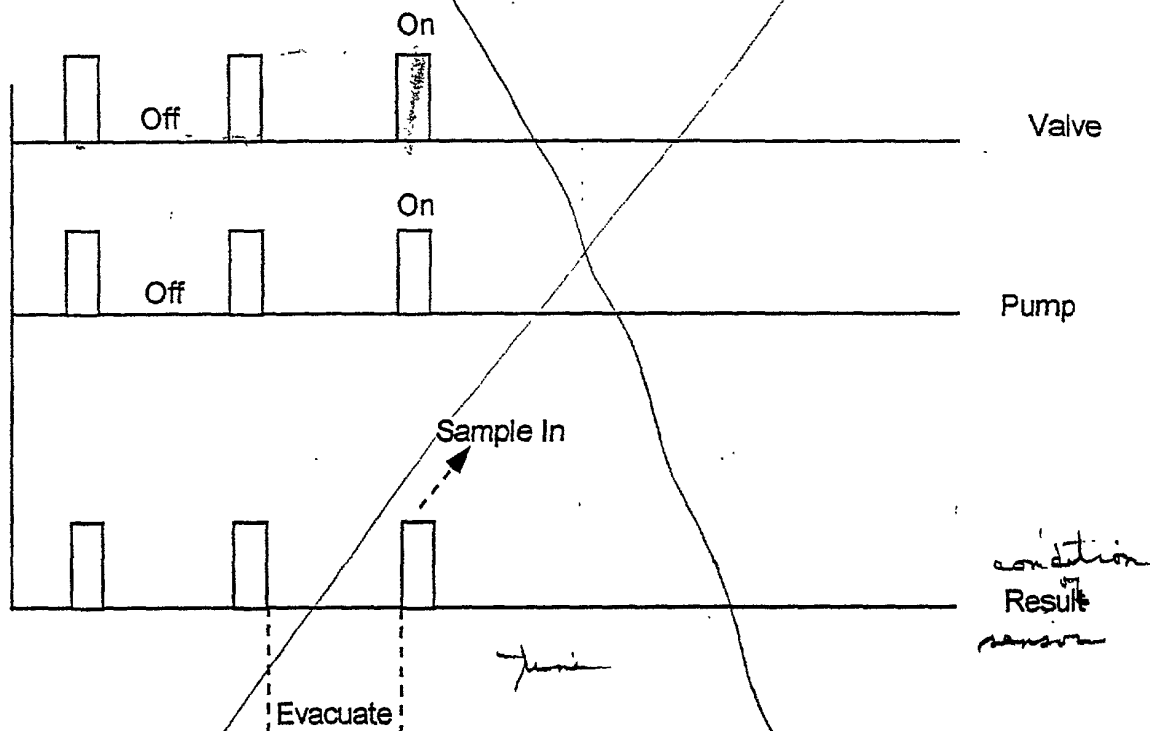
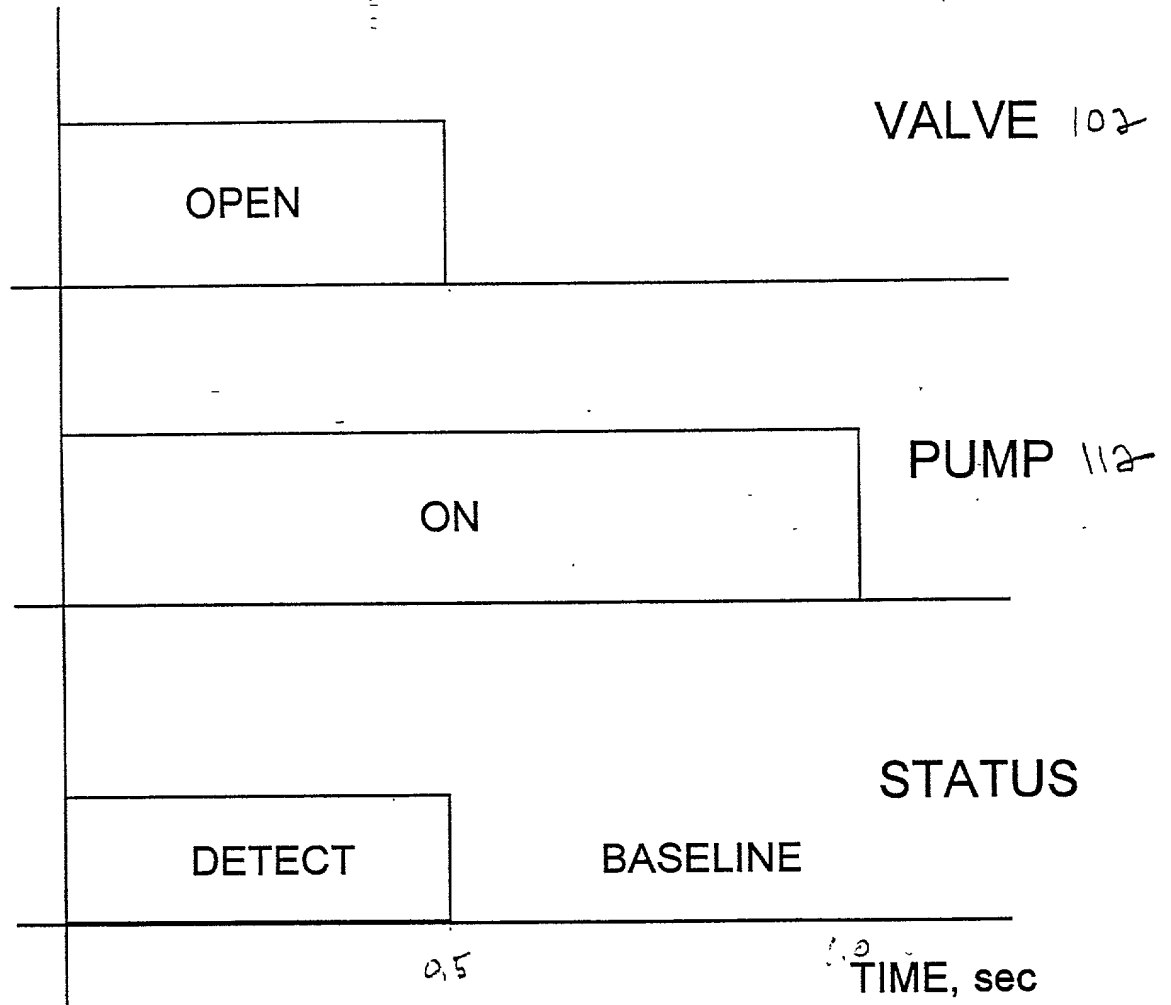


Figure 2: Gas sampling/Detect Timing Diagram of Pneumatic System

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1

Fig. 2



pump is always on

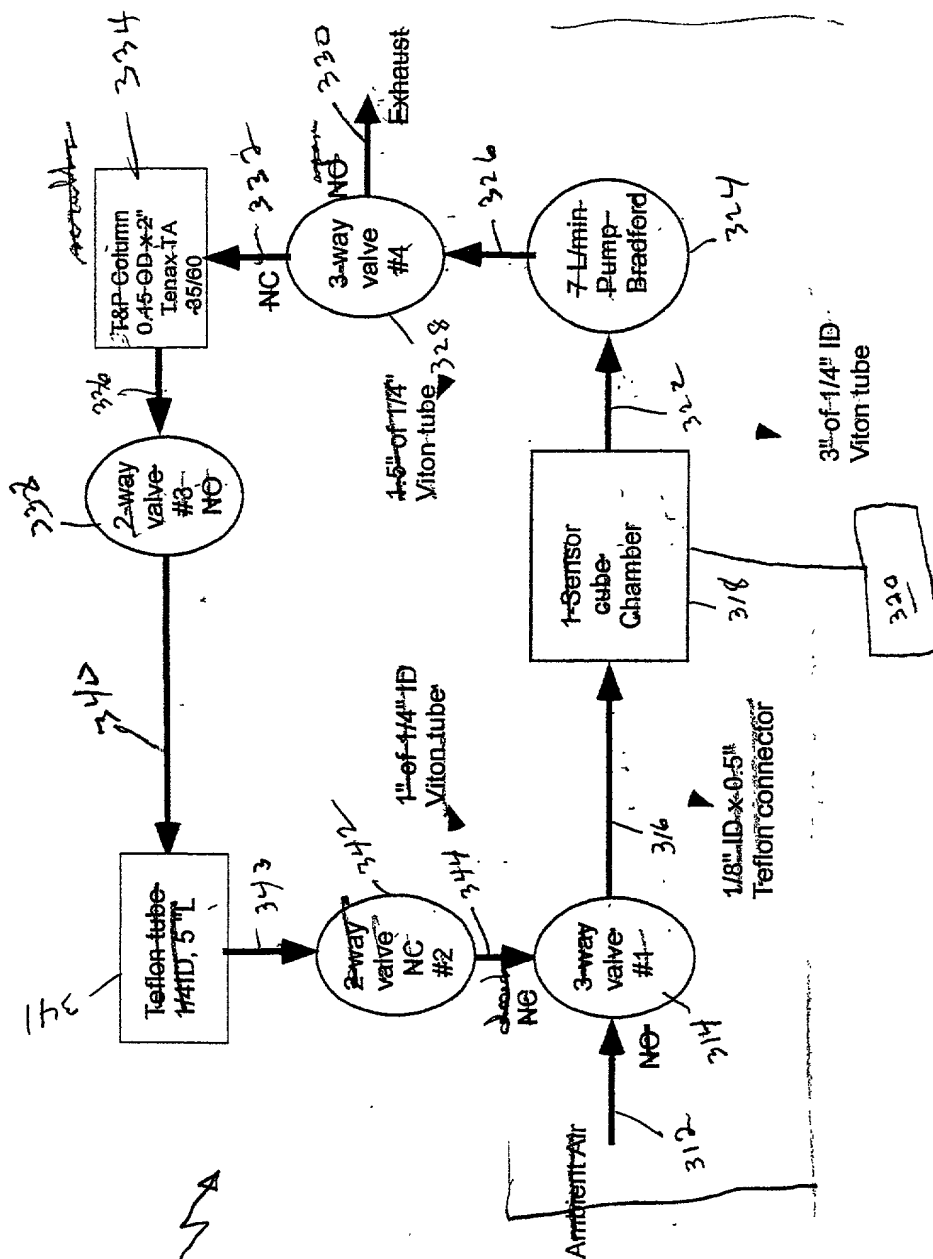
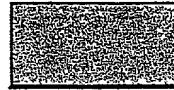


Figure 3: Improved Evacuated Gas Sampling Pneumatic System which results in rapid signal kinetics during and after vapor exposure

Valve #1 and
Pump (max Flow rate) on



Partial
evacuation

400

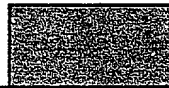
Valve
#2, #4 On



Complete
Evacuation

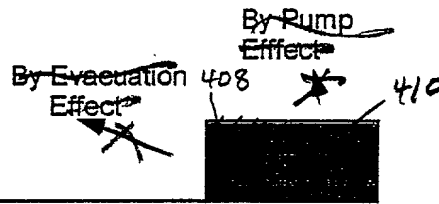
402

Valve #1 and
Pump (max Flow rate) on



Prior
Sampling

404



Sampling

406

Time (Sec)

0 5 10 15 20

Figure 5: Gas Sampling/ Detect Timing Diagram of pneumatic system II

for the flush
from Fig 5 - ambient

4

Combination of high flow and Vacuum

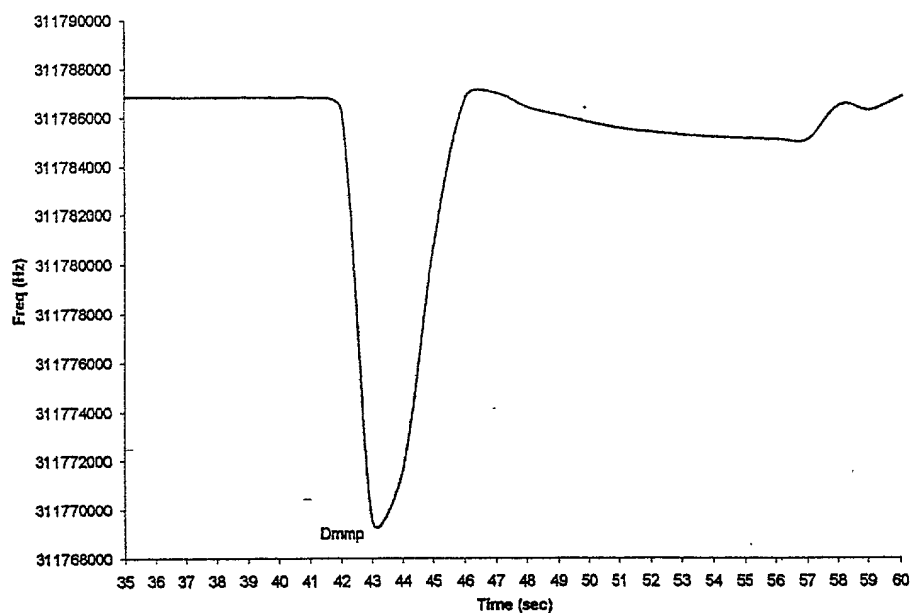


Figure 6. SAW Sensor Response Showing Fast Signal Response & Recovery Kinetics By Incorporating Pressure Modulated Pneumatics & Flow Through Purging

Vacuum-effect

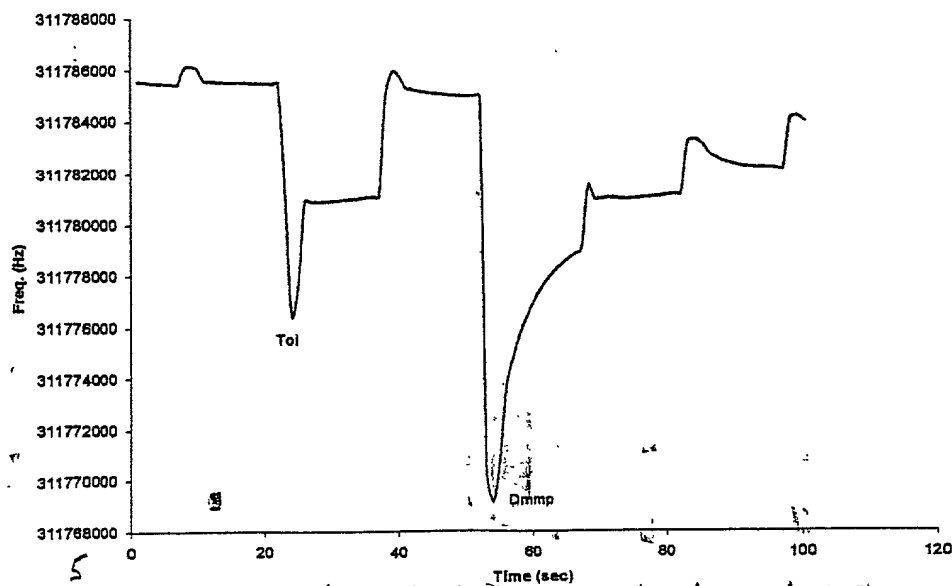


Figure 8. SAW Sensor Response Showing Fast Signal Response & Slow Recovery Kinetics By Incorporating Pressure Modulated Pneumatics Described In Figure 2